

WHAT IS CLAIMED IS:

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1. A User Datagram Protocol (UDP) packet
containing Transcoder/Rate Adaptor Unit (TRAU)
information for transmission in an Internet Protocol (IP)
based Base Station System (BSS) architecture, said UDP
packet comprising:
a payload including data bits and zero or more
parity bits;
TRAU in-band control information relevant to said
payload and said IP based BSS architecture, said TRAU in-
band control information being appended to said payload;
a sequence number parameter defining a sequence
number associated with said payload, said sequence number
parameter being appended to said payload and said TRAU
in-band control information; and
UDP and IP header information including at least an
IP address for a receiving node of said UDP packet within
said IP based BSS architecture.

1 2. The UDP packet of Claim 1, further comprising:
2 frame type information associated with a frame type
3 of said payload, said frame type information being
4 appended to said payload.

1 3. The UDP packet of Claim 2, wherein said frame
2 type is selected from the group consisting of: a full
3 rate or enhanced full rate speech frame, an adaptive
4 multi-rate speech frame, a half rate speech frame an
5 operation and maintenance frame, a data frame, an
6 extended data frame, an idle speech frame and a silence
7 descriptor frame.

1 4. The UDP packet of Claim 1, wherein said TRAU
2 in-band control information does not include a Time
3 Alignment command parameter.

1 5. The UDP packet of Claim 1, wherein said UDP
2 packet does not include synchronization bits, tail bits
3 or spare bits.

1 6. The UDP packet of Claim 1, wherein the length
2 of said UDP packet varies.

1 7. The UDP packet of Claim 1, wherein said TRAU
2 in-band control information includes at least one of a
3 phase alignment parameter, a handover command parameter,
4 a request or indication flag parameter, an uplink frame
5 error parameter, a discontinuous transmission request
6 parameter, a frame classification parameter or a code
7 mode indication or code mode request parameter.

1 8. A telecommunications system for transmitting
2 Transcoder/Rate Adaptor Unit (TRAU) information in an
3 Internet Protocol (IP) based Base Station System (BSS)
4 architecture, said telecommunications system comprising:
5 a first node within said IP based BSS architecture
6 adapted to receive a payload, append TRAU in-band control
7 information relevant to said payload and said IP based
8 BSS architecture to said payload, append a sequence
9 number parameter defining a sequence number of said
10 payload to said payload and said TRAU in-band control
11 information and encapsulate said payload, said TRAU in-
12 band control information and said sequence number
13 parameter into a User Datagram Protocol (UDP) packet,
14 said UDP packet including UDP header information and IP
15 header information; and
16 a second node within said IP based BSS architecture
17 and connected to said first node through an IP network,
18 said second node being adapted to receive said UDP packet
19 from said first node through said IP network using said
20 UDP header information and said IP header information.

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1 9. The telecommunications system of Claim 8,
2 wherein said UDP header information and IP header
3 information includes at least an IP address associated
4 with said second node.

1 10. The telecommunications system of Claim 9,
2 wherein said UDP header information and IP header
3 information further includes a UDP port number associated
4 with said second node.

1 11. The telecommunications system of Claim 8,
2 wherein said first node is a Channel Codec Unit within a
3 Base Transceiver Station and said second node is a
4 Transcoder/Rate Adaptor Unit within a Media Gateway.

1 12. The telecommunications system of Claim 8,
2 wherein said first node is a Transcoder/Rate Adaptor Unit
3 within a Media Gateway and said second node is a Channel
4 Codec Unit within a Base Transceiver Station.

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1 13. The telecommunications system of Claim 8,
2 wherein said UDP packet further comprises:
3 frame type information associated with a frame type
4 of said payload, said frame type information being
5 appended to said payload by said first node.

1 14. The telecommunications system of Claim 13,
2 wherein said frame type is selected from the group
3 consisting of: a full rate or enhanced full rate speech
4 frame, an adaptive multi-rate speech frame, a half rate
5 speech frame, an operation and maintenance frame, a data
6 frame, an extended data frame, an idle speech frame and
7 a silence descriptor frame.

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1 15. The telecommunications system of Claim 8,
2 wherein said TRAU in-band control information does not
3 include a Time Alignment command parameter.

1 16. The telecommunications system of Claim 8,
2 wherein said UDP packet does not include synchronization
3 bits, tail bits or spare bits.

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1 17. The telecommunications system of Claim 8,
2 wherein the length of said UDP packet varies.

1 18. The telecommunications system of Claim 8,
2 wherein said TRAU in-band control information includes at
3 least one of a phase alignment parameter, a handover
4 command parameter, a request or indication flag
5 parameter, an uplink frame error parameter, a
6 discontinuous transmission request parameter, a frame
7 classification parameter or a code mode indication or
8 code mode request parameter.

1 19. The telecommunications system of Claim 8,
2 wherein said sequence number is a function of the maximum
3 jitter in said IP network.

1 20. A method for transmitting Transcoder/Rate
2 Adaptor Unit (TRAU) information in an Internet Protocol
3 (IP) based Base Station System (BSS) architecture, said
4 method comprising the steps of:
5 receiving a payload at a first node within said IP
6 based BSS architecture;
7 appending TRAU in-band control information relevant
8 to said payload and said IP based BSS architecture to
9 said payload by said first node;
10 appending a sequence number parameter defining a
11 sequence number of said payload to said payload and said
12 TRAU in-band control information by said first node;
13 encapsulating said payload, said TRAU in-band
14 control information and said sequence number parameter
15 into a User Datagram Protocol (UDP) packet, said UDP
16 packet including UDP header information and IP header
17 information identifying a second node within said IP
18 based BSS architecture; and
19 transmitting said UDP packet to said second node
20 through an IP network.

1 21. The method of Claim 20, further comprising the
2 step of:

3 appending frame type information associated with a
4 frame type of said payload to said payload by said first
5 node.

1 22. The method of Claim 20, wherein said step of
2 appending TRAU in-band control information further
3 comprises the step of:

4 appending at least one of a phase alignment
5 parameter, a handover command parameter, a request or
6 indication flag parameter, an uplink frame error
7 parameter, a discontinuous transmission request
8 parameter, a frame classification parameter or a code
9 mode indication or code mode request parameter to said
10 payload.

1 23. The method of Claim 20, wherein said step of
2 appending said sequence number parameter further
3 comprises the step of:

4 determining said sequence number as a function of
5 the maximum jitter in said IP network.

1 24. The method of Claim 20, wherein said step of
2 encapsulating further comprises the step of:

3 encapsulating said payload, said TRAU in-band
4 control information and said sequence number parameter
5 into said UDP packet without including a Time Alignment
6 command parameter within said TRAU in-band control
7 information.

1 25. The method of Claim 20, wherein said step of
2 encapsulating further comprises the step of:

3 encapsulating said payload, said TRAU in-band
4 control information and said sequence number parameter
5 into said UDP packet without including synchronization
6 bits, tail bits or spare bits within said UDP packet.